

Validation of Backtable Graft Arterial Anastomosis Between Splenic Artery and Superior Mesenteric Artery: A 21-year Single-center Experience of Pancreas Transplantation

Aim: To determine the role of the arterial spleno-mesenteric anastomosis reconstruction technique compared to other types of backtable arterial anastomosis, in terms of vascular complications and long-term patient and graft survival in a single institution.

Methods: Retrospective analysis including all pancreas transplants performed over 21 years (1999–2019). For the bench reconstruction: (1) the distal superior mesenteric artery (SMA) was distally dissected and sewn to the splenic artery (SA), or (2) the arteries were reconstructed with an iliac arterial “Y” graft.

Results: A total of 412 pancreas transplantations were done. At the bench procedure SMA/SA anastomosis was performed in 376 of patients, arterial iliac “Y” graft in 32 of patients, and no arterial reconstruction was required in 4 of patients. A total of 90 patients presented vascular complications within the 30 days following transplant: (venous (n=64), arterial (n=11), both (n=15), without statistically significant differences between the SMA/SA anastomosis group and others. Regarding acute arterial events:(1) for the SMA/SA anastomosis group, a total of 24 patients presented with thrombosis (n=16), stenosis (n=5), pseudoaneurysm (n=2); (2) for the iliac “Y” graft group, there were 3 patients with thrombosis. Focusing on chronic arterial events:(1)for the SMA/SA anastomosis group, a total of 2 patients presented with chronic thrombosis, 2 with pseudoaneurysm, 2 with arterioenteral fistula and one with arteriovenous fistula;(2)for the iliac “Y” graft group, and one patient with arterioenteral fistula. After a median follow-up of 129.2 [77.2–182] months, no statically differences were found between SMA/SA anastomosis and iliac “Y” graft arterial reconstruction groups at 1, 3, 5 and 10 years in terms of patient and graft survival.

Conclusions: The back table procedure used in our institution (SMA/SA) is an easy, effective and safe surgical technique that can be used as the first option for arterial reconstruction or as a good alternative for surgeons to the widely used arterial “Y” graft.